

The Bourns® Model 81/82 "Modular" Potentiometers are available with optional rotary switch modules for applications where integral "on-off" function control is desired. The combination is designated the Model 85/86.

Switch modules may be ganged behind a primary potentiometer module in any combination of up to three switches and/or secondary potentiometer modules.

A positive action "non-tease" detent design with low actuation torque, compliments the smooth feel of the Model 81/82 Potentiometer.

Contacts of fine silver with gold overlay provide exceptionally low contact resistance for reliable operation in low level analog or logic circuits.

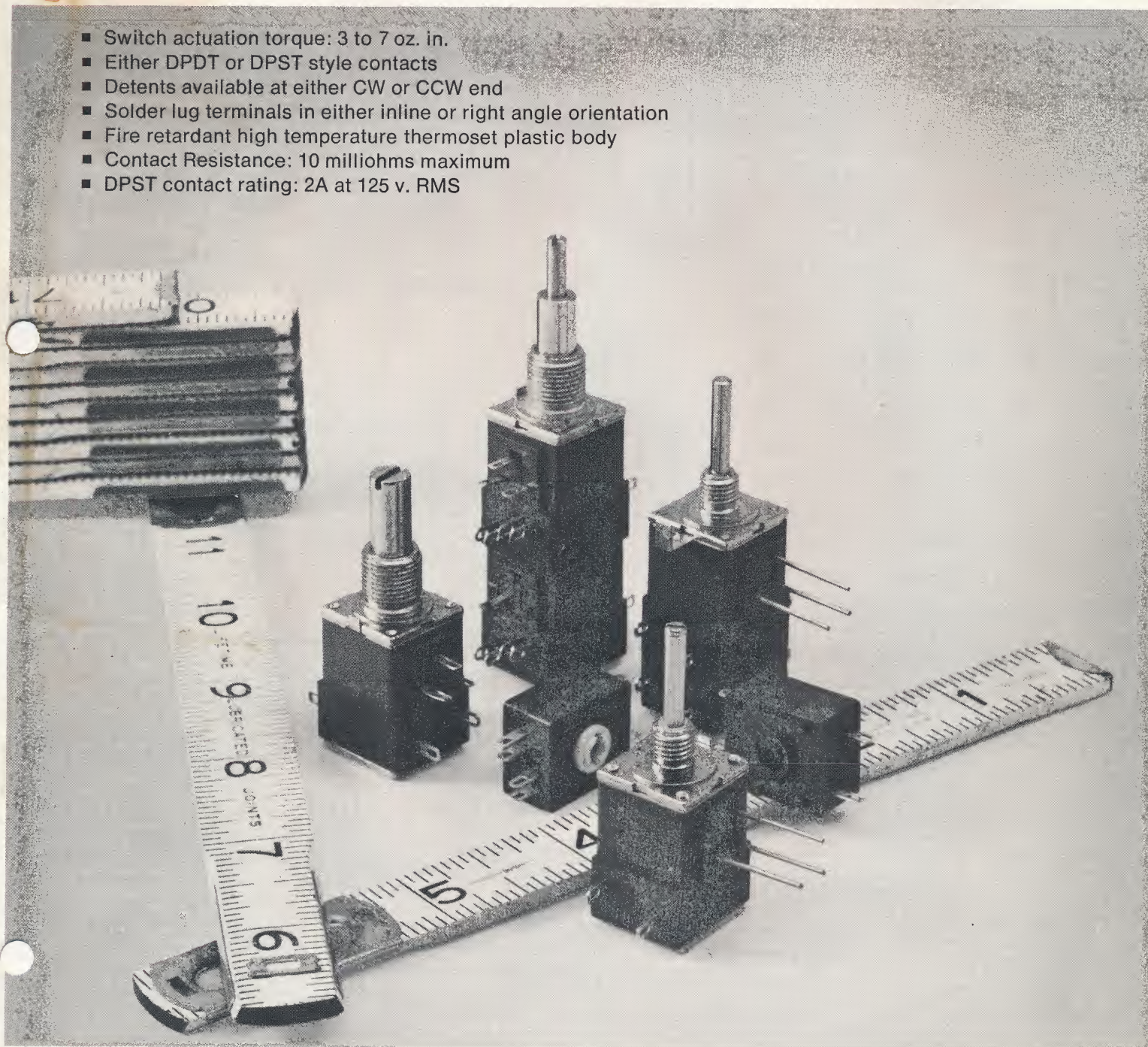


MODEL 85/86

MODEL 81/82 MODULAR POTENTIOMETER WITH ROTARY SWITCH MODULE *

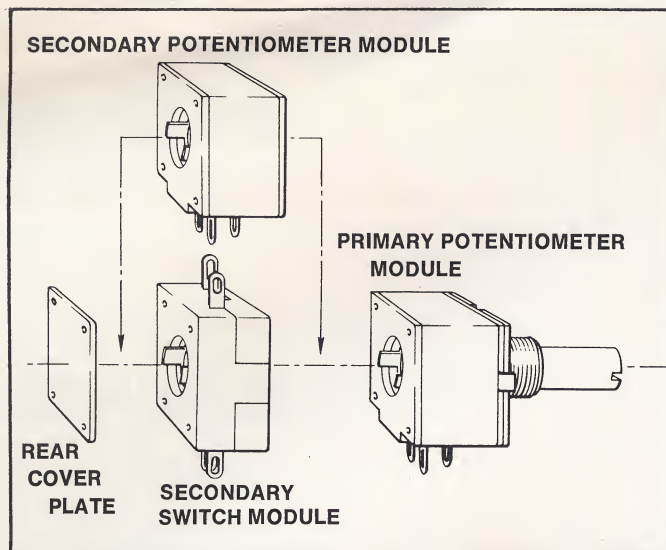
*Patent Pending

- Switch actuation torque: 3 to 7 oz. in.
- Either DPDT or DPST style contacts
- Detents available at either CW or CCW end
- Solder lug terminals in either inline or right angle orientation
- Fire retardant high temperature thermoset plastic body
- Contact Resistance: 10 milliohms maximum
- DPST contact rating: 2A at 125 v. RMS



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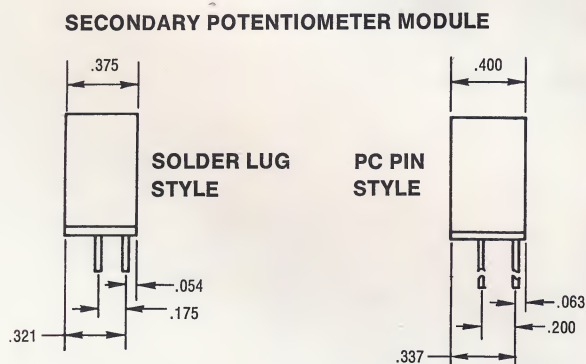
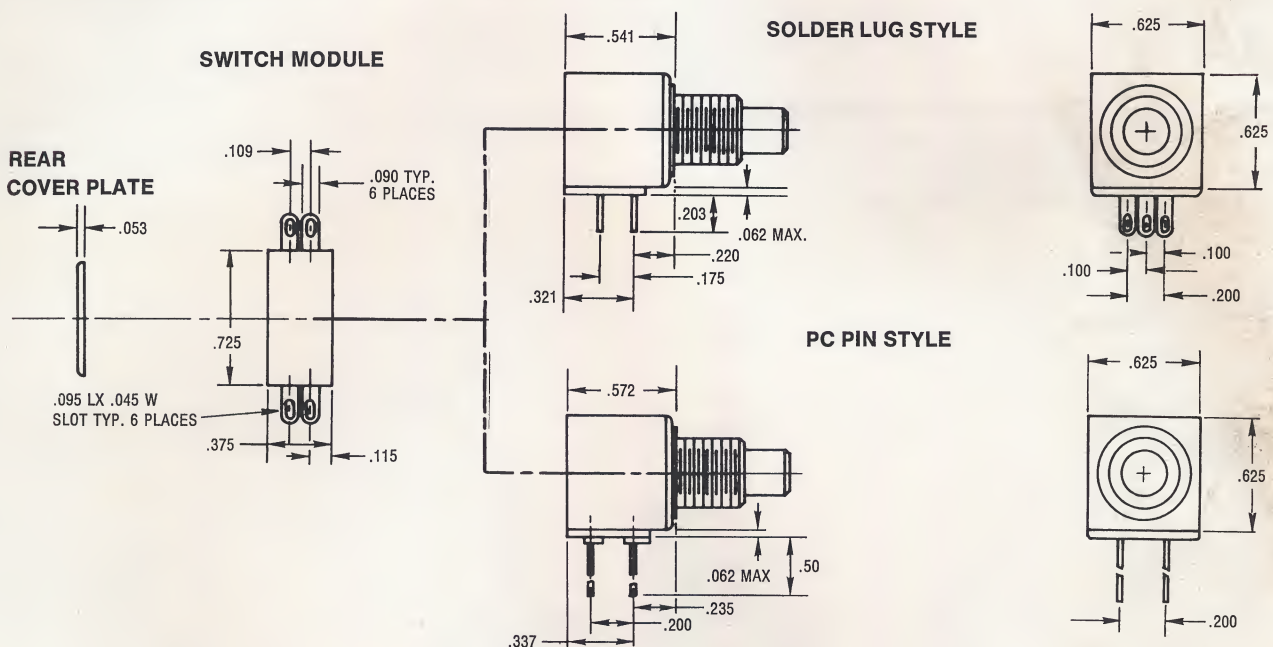


CONFIGURATION and DIMENSION GUIDE

A Model 85/86 Potentiometer with Switch consists of a primary potentiometer module plus at least one switch module, and a rear cover plate. In addition, you may gang two additional modules . . . which may be any combination of secondary potentiometer modules, or additional switches. Potentiometer modules are available in either solder-lug or PC-pin terminal styles. SWITCH MODULES ARE SOLDER LUG ONLY.

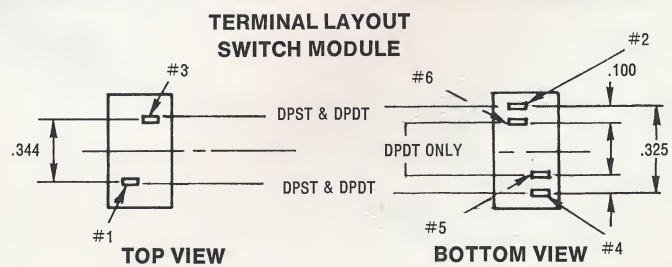
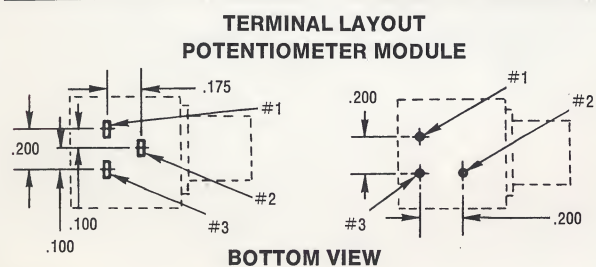
Dual concentric shaft combinations are available, consult factory for design details.

PRIMARY POTENTIOMETER MODULE



NOTES:

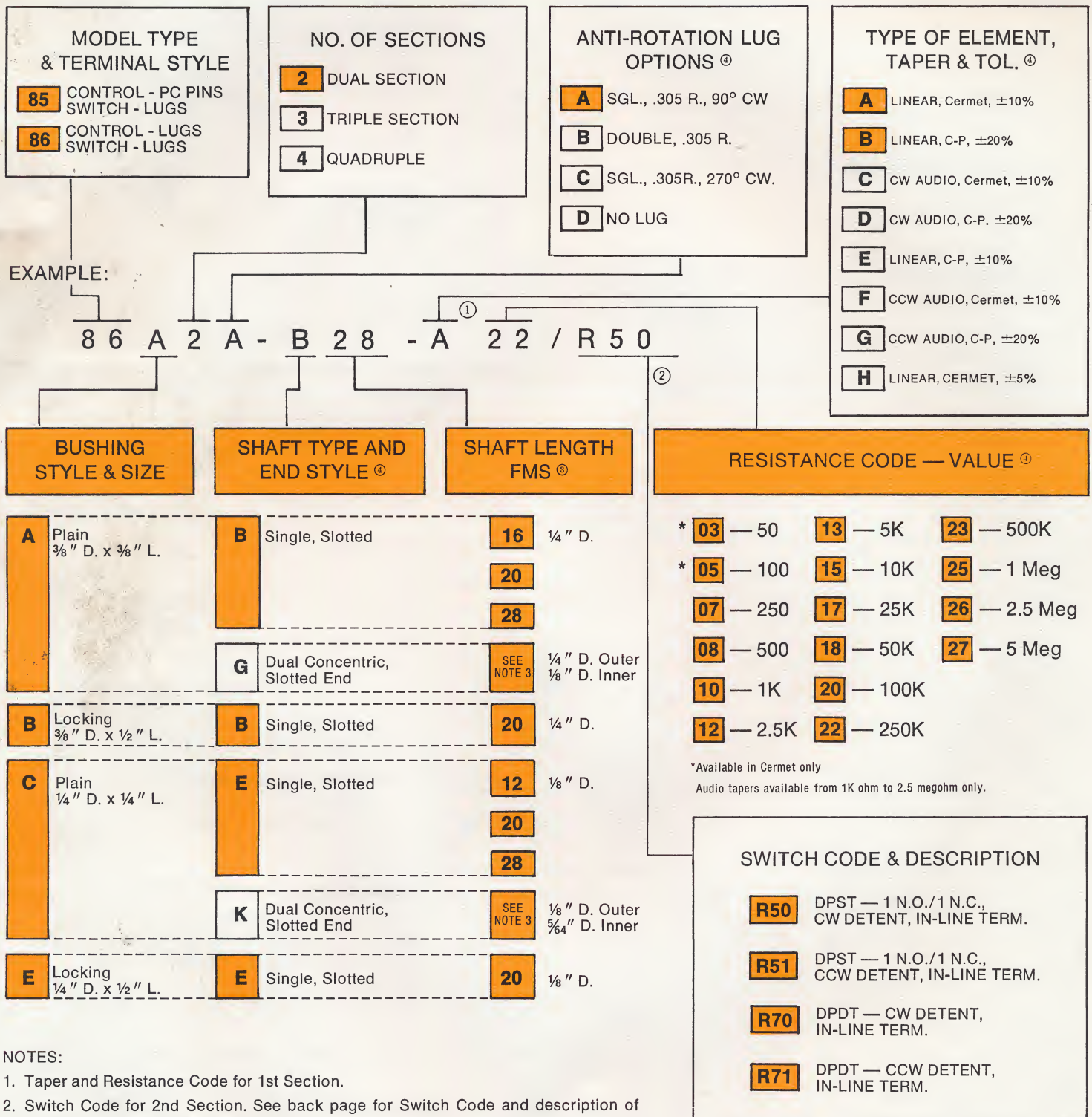
Module dimensions are additive for finished assembly lengths. Refer to Model 81/82 Brochure for potentiometer specifications and other mechanical details.



See back page for switch function diagrams and specifications.

MODEL 85/86 PART NUMBERING SYSTEM

Features indicated by shaded areas are production standards and normally available for fast delivery. Unshaded areas are available on special order and are not normally stocked.



NOTES:

1. Taper and Resistance Code for 1st Section.
2. Switch Code for 2nd Section. See back page for Switch Code and description of switches available as special option.
3. Shaft length code is based on the number of 1/32" increments in the length from the surface (FMS). Shaft lengths other than those listed are available on special order. Consult factory for dual concentric shafts.
4. Other anti-rotation lug options, resistance values, tapers and shaft end styles are on special order. Consult factory for details.

ELECTRICAL CHARACTERISTICS

Contacts	
DPST	N.O./N.C. Std.
DPDT	2 Pr. Transfer-Std. (Break before make)
Power Rating (Resistive Load)	
DPST	2 A. @ 125 VRMS-60 Hz. or 2 A. @ 28 V. DC
DPDT	1 A. @ 125 VRMS-60 Hz. or 1 A. @ 28 V. DC
Dielectric Strength	
Sea Level	1000 VRMS-minimum
Insulation Resistance	1000 megohms
Contact Resistance	
(.1 V. DC-1 ma.)	10 milliohms maximum
Contact Bounce	5 milliseconds maximum

MECHANICAL CHARACTERISTICS

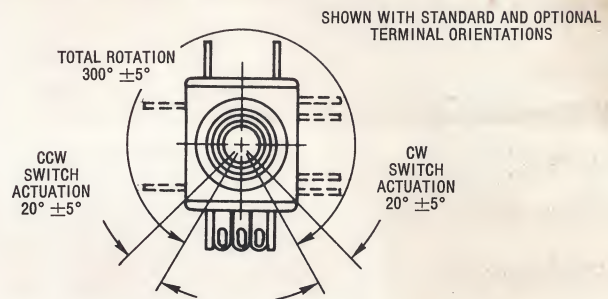
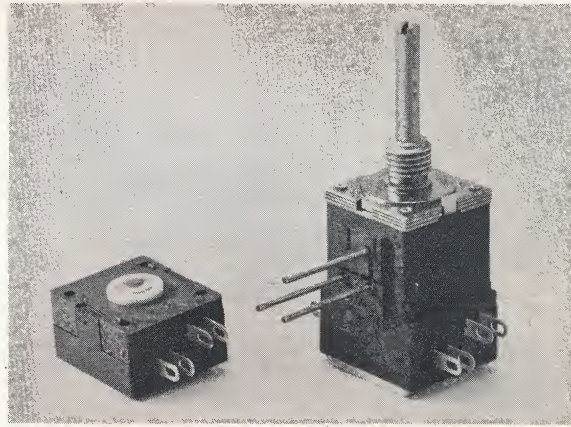
Detent Actuating Torque	
(Each Section-Switch Module only)	3-7 oz.-in.
Shaft Torque	0.5-2 oz.-in. (Out of Detent, 2-4 Module Assembly)
Detent	CW or CCW-Std.
Actuation Angle	20° ±5°
Contacts	Fine Silver with Gold Overlay
Terminals	Solder Lug only
Standard Orientation	In-Line with Control Terminals
Optional	Rotated 90° CCW from Standard
Terminal Strength	2 lb. minimum (Before and After Soldering Heat Exposure)

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range	0°C to +70°C
Power Rating	As Specified
Contact Resistance	10 milliohms maximum
Actuating Torque (SW. only)	3-7 oz.-in.
Exposure Temperature Range	-65°C to +125°C
Vibration 8 G's (Dual Section)	44-2000 Hz.
Contact Resistance	10 milliohms maximum
Contact Bounce	0.1 millisecond maximum
Shock, 20 G's (Dual Section)	
Contact Resistance	10 milliohms maximum
Contact Bounce	0.1 millisecond maximum
Rotational Life	25,000 Cycles (50% Duty Cycle @ Rated Power Load)
Actuating Torque (SW only)	2-7 oz.-in.
Moisture Resistance	MIL-STD-202, Method 106
Contact Resistance	10 milliohms maximum
Insulation Resistance	100 megohms minimum (After 24 Hours @ Room Temperature)
Housing Material	High Temperature, Flame Retardant Thermosetting Plastic

BOURNS® PANEL POTENTIOMETER WITH ROTARY SWITCH MODULE

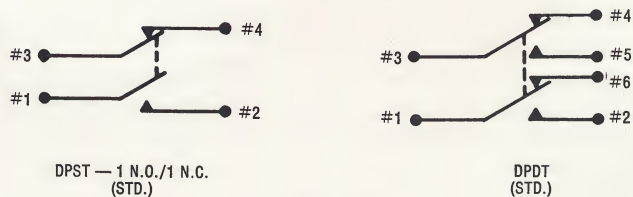
MODEL 85/86



SWITCH CODE AND DESCRIPTION

R50	DPST, N.O./N.C., CW DETENT, IN-LINE TERM.
R51	DPST, N.O./N.C., CCW DETENT, IN-LINE TERM.
R56	DPST, N.O./N.C., CW DETENT, HOR. TERM.
R57	DPST, N.O./N.C., CCW DETENT, HOR. TERM.
R70	DPDT, CW DETENT, IN-LINE TERM.
R71	DPDT, CCW DETENT, IN-LINE TERM.
R72	DPDT, CW DETENT, HOR. TERM.
R73	DPDT, CCW DETENT, HOR. TERM.

SWITCH FUNCTIONS — ALL SWITCHES SHOWN IN DETENT POSITION



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*Bourns reserves the right to change specifications and prices without notice.